Building an Effective Stormwater Funding Strategy

DRAFT Learning Module:

U.S. EPA Water Infrastructure and Resiliency Finance Center

Course Overview:

- Introduction: The Need For Sustainable Funding
- Chapter 1: Prepare for Success: Get Organized and Build Support
- Chapter 2: Establish Your Program Goals, Your Key Problems, and Your Program Plan
- Chapter 3: Determine Your Present and Future Program Costs
- Chapter 4: Stormwater Revenue, Funding, and Financing Sources and Strategies
- Chapter 5: Developing and Administering a Dedicated Funding Source
- Chapter 6: Engaging Private Partners and Investors for Stormwater Management

CHAPTER 6 - Engaging the Private Sector and Property Owners in Innovative Stormwater Management

- Subchapter 6.1: Economic Instruments for Private Property Stormwater Management Investments
- Subchapter 6.2: Alternative Project Delivery Approaches for Stormwater Management Infrastructure Investments

Chapter 6		
Slide no.	**Layout notes**	**Content**
1	Chapter navigation slide Title with each subchapter on separate "right arrow" link	**Chapter 6: Engaging Private Partners and Investors for Stormwater Management** • Introduction (link to next slide) • Subchapter 4.1: The Need for a Portfolio Approach o Jump to Slide XX • Subchapter 4.2: Revenue and Funding Sources o Jump to Slide XX
2	Text with links to italicized text (which links to detailed information under each italicized section	**Introduction: Why Involve Private Parties in Municipal Stormwater Management?** *Necessary for comprehensive municipal stormwater management* - Polluted stormwater is the major cause of water quality impairments in urban America, and most land from which stormwater flows is privately owned. It should come as no surprise, then, that a growing level of interest in driving stormwater implementation to private properties exists, as these areas often present the greatest amount of opportunities for stormwater infrastructure implementation. In addition, private properties are not often burdened with existing infrastructure and other site constraints, which makes these potentially low-cost locations for siting for stormwater management investments. *Alternative project funding and delivery options improve cost-effectiveness, risk allocation, timeliness, and environmental outcomes.* - Stormwater infrastructure projects are traditionally implemented either through public-only led or privately-only led efforts to fund/finance projects through the traditional design-bid-build paradigm. There is increasing interest in delivering infrastructure projects using non-traditional approaches to reduce the time and costs associated with project implementation. These approaches involve integration of two or more of services associated with project design,

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		build, operation, and maintenance. Non-traditional delivery approaches can lower costs, reduce project delivery schedules, reduce public agency risks, and enable use of for a mix of using public or private financing tools. In some instances, these frameworks take the form of a public-private partnership (P3) and in other instances it may take the form of a performance-based contract. *Unlocks potential for innovative partnerships* - Unlike most other infrastructure sectors, stormwater infrastructure impacts many stakeholders across a variety of spheres. While we all rely on wastewater treatment technologies in daily life, the footprint of a POTW has limited physical impacts on a community and its stakeholders. To contrast, stormwater runoff affects all landscapes and impacts not only public works departments, but parks, roads, and economic development entities as well. Partnerships between the public and the private sector, such as a P3, or between two public entities, provide opportunities for cost savings and overall project value based upon areas of shared interest and leveraging potentials. (See chapter 2.5 for more information on multi-objective stormwater projects)

Subchapter 6.1: Economic Instruments for Private Property Stormwater Management Investments and Implementation		
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3	Subchapter navigation slide with explanatory text; button links to main sub-sections	**Subchapter 6.1: Economic Instruments for Private Property Stormwater Management Investments** **Unlocking the Power of Incentives and Market Forces** The use of market-based economic instruments to can be a powerful motivation for private property owners to adopt stormwater infrastructure on their properties. Municipalities are using incentive programs to encourage implementation of stormwater infrastructure for retrofit, redevelopment and new development projects on various property types, such as residential, commercial and institutional properties. This subchapter discusses how private land owners and investors can become more involved in addressing the nation's stormwater management challenges. **6.1.1: Incentive-based: Programs Designs to Change Behavior** ○ *Jump to Slide x* **6.1.2: Mitigation/Credit-Based: Programs Designed to Provide Flexibility when Meeting Regulatory Requirements** ○ *Jump to Slide x*
4	Text with image; button navigation on top level bullets (content shown	**6.1.1: Incentive-based: Programs Designs to Change Behavior** Types of Incentives • *Cost Avoidance* (click jump to slide X) ○ Fee reductions

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	here on following slides)	○ Insurance premiums • *Financial Gain* (click jump to slide X) ○ Subsidies • *Program/Project Support* (click jump to slide X) ○ Land developer support
5	Text with background image; brief text description of main items with button for additional detail and case study	**Cost Avoidance** • Fee Reductions – Reduction in stormwater fees based upon the implementation and ongoing maintenance of a stormwater asset on private property ○ Also known as fee discounts, rebates or credits ○ Nearly half of communities with a stormwater fee offer a fee reduction option (Black & Veatch, 2014) ○ Advantage(s) ▪ Direct financial reward for action taken ○ Challenge(s)/shortcoming(s) ▪ Fees usually set so low that the reduction is far less than the cost needed for BMP implementation ▪ If a high number of property owners take advantage of the program, there could be a lack of adequate funding for the stormwater program sponsoring the reduction ▪ May become burdensome with paperwork ▪ Ongoing maintenance is likely to not be provided in a robust fashion ○ Example(s) ▪ Washington, D.C.'s Clean Rivers program associated with DC Water's CSO program allows for a 4% discount on the Impervious Area Charge. DC's Department of Energy and Environment (DOEE) also offers a maximum of 55% off their stormwater fee when adopting on-site GI (DOEE, 2016). • Insurance Premiums - Reduction of flood insurance premium based upon on-site adoption of specified stormwater management practices ○ Advantage(s) ▪ Direct financial reward for insurance policy holders ▪ Encourages those who need flood insurance to obtain this coverage at a reduced cost ○ Challenge(s)/shortcoming(s) ▪ Not in practice yet ○ Example(s) ▪ Community Rating System within the National Flood Insurance Program allows reduced insurance rates for homeowners in communities who adopt specific practices to reduce flood risk and enhance resilience overall, including the development of GI-focused building codes, ordinances, and a focus on runoff volume as well as peak flow (U.S. EPA,2016a). ▪ Will add NOLA example that was proposed

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6	Text with background image; brief text description of main items with button for additional detail and case study	**Financial Gain** • Subsidies ○ **Basic subsidy** – Public pays for a portion (or all) of a stormwater investment on a private parcel. This may require a cost-share with property owners. ▪ Example(s) • Prince George's County, Maryland will pay up to for $4,000 for rain barrels, permeable pavement, rain gardens, and other onsite GI treatment on residential properties and up to $20,000 for non-residential properties (Prince George's County, 2017). ○ *NOTE: Be clear about the full program cost – not just the grant to these properties. There is on-going operational costs for these programs and for the assurance that the facilities are maintained and functioning.* ○ **Enhanced subsidy** – Public establishes a program or framework where payments are made to private firms (or private property owners) who site, design, implement and inspect/maintain stormwater infrastructure. ▪ Example(s) • Philadelphia Water Department's Stormwater Management Incentive Program (SMIP) and Green Acres Retrofit Program (GARP) ○ 10,000 impervious acres to "green" – CSO consent decree ○ PWD raised stormwater fees on many non-residential property owners ○ Credit/rebate of up to 80% provided for onsite retention provided ○ Findings show ROI is challenging ○ Project aggregation may help ○ Fund retrofits <$100K (SMIP), <$90K and >10 ac (GARP) ○ Advantage(s) ▪ Provides pathway to reduced costs for private property stormwater investments (due to cost share, etc.) ○ Challenge(s)/shortcoming(s) ▪ Subsidy most often does not cover full cost of investment • Leads to disparity among beneficiaries based upon socio-economic condition (see Seattle example)
7	Text with Images	**Program/Project Support**

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		• Land Developer Support - Review fee reduction or reduced review time is based a reduction of a review fees and/or time required to review plans based upon integration of specific types of stormwater management infrastructure into project ○ Usually targets innovative or emerging practices, such as green infrastructure ○ Advantage(s) ▪ Enables efforts to incorporate new, innovative or emerging technologies or approaches into projects ▪ Reduction in plan review/approval times for developers is equivalent to saving money on project costs ▪ Reduced fees has direct cost-savings impact for projects ○ Challenge(s)/shortcoming(s) ▪ Limited to new and redevelopment projects only, so is more impactful for areas with high land development/redevelopment rates ○ Example(s) ▪ NEED TO FIND A SPECIFIC EXAMPLE HERE…
8	Text with image; button navigation on top level bullets (content shown here on following slides)	**6.1.2: Mitigation/Credit-Based - Programs Designed to Provide Flexibility when Meeting Regulatory Requirements** There are three distinct types of programs that provide flexibility to accommodate stormwater management investments with permutations for some of these for specific context. In addition, these options have the capacity to reduce costs through market forces as well as expand overall opportunities for implementation of stormwater management infrastructure. • *Mitigation* ○ Permittee-Responsible Mitigation ○ Banking-Type Mitigation ▪ Public Mitigation/Banking ▪ Private Mitigation Banking • *Credit Trading / Offsets* ○ Stormwater Trading/Offsets ○ Regional Trading/Offset • *In-Lieu Fee*
9	Text with Images	**Mitigation – Permittee-Responsible Mitigation** • Permittee-Responsible Mitigation - Provides flexibility to identify a site or sites where investments can be made to offset impacts at another area or project. ○ Also referred to as "Self-Mitigating" or "Alternative Compliance" ○ Advantage(s) ▪ Reduces the burden on the public sector compared to in-lieu fee or other public-led programs ▪ Provides opportunity for project owner (usually land developer) to identify a lower-cost option for meeting regulatory requirements ○ Challenge(s)/shortcoming(s)

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		▪ Limited to new and redevelopment projects only, so is more impactful for areas with high land development/redevelopment rates ▪ If policies are not well structured, could lead to localized impacts to water quality or quantity ○ Example(s) ▪ City of San Diego, CA Alternative Compliance Program • Not finalized – still evolving • Focus is on offsite and alternative stormwater compliance for meeting new development requirements • Policy considerations include: ○ Limits of offsite investments ○ Nature of offsite projects ○ Water quality treatment backstop ○ Hydromod treatment and location ○ Inclusions of credit options (trading ratios, etc.)
10	Text with Images	**Mitigation – Banking-Type Mitigation – Public Mitigation/Banking** • *Public Mitigation/Banking* - A public entity or an established authority (e.g. Watershed Improvement District, etc.) located in key areas make regional investments and the "credits" of excess stormwater treatment that is generated are then available to be "sold" to private parties (developers) or retired towards public regulatory requirement. ○ Advantage(s) ▪ Centralizes stormwater infrastructure investments if done at regional level ▪ Has the capacity for cost-savings due to economies of scale (depending upon project scale) ▪ Has the ability to be financed through low-cost public financing (e.g., municipal bonds, SRF, etc.) ▪ Can be attractive for land developers who may be granted access to low-cost/no-cost stormwater regulatory credit through banking instrument ▪ Public sector can tap into stormwater management services provided to meet regulatory obligations, if needed ▪ Public control can allow for targeting of specific areas of based upon local water quality or quantity issues/sensitivities, socio-economic conditions, or areas best suited for specific types of stormwater infrastructure, such as green stormwater infrastructure which can be most easily/inexpensively sited in areas that have well-drained soils and a minimal amount of underground/infrastructure impacts. ○ Challenge(s)/shortcoming(s)

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		▪ Places burden on public sector to site, design, implement, inspect and maintain stormwater infrastructure ▪ If regional facility located in area where expected development growth will occur, there is a risk to the public sector if growth projections are incorrect ▪ If sited to be on private property/land, could be difficult to locate large parcel to match needs ▪ If sited on public property/land, could be difficult to find parcel to meet needs as the majority of land in most communities is privately-owned ○ Example(s) ▪ Program level - Grand Rapids example ▪ Project level – South Wilmington Wetland Park; Wilmington, DE
11	Text with Images	**Mitigation – Banking-Type Mitigation – Private Mitigation Banking** • *Private Mitigation Banks* – A private entity that makes investments in stormwater infrastructure by financing, siting, designing, constructing and inspecting/maintaining stormwater management practices ○ Advantage(s) ▪ Reduces the burden on the public sector to develop stormwater mitigation bank investments ▪ Provides a pool of regulatory credit that can provide lower-cost option for land developers when compared to providing stormwater runoff treatment on-site treatment ○ Challenge(s)/shortcoming(s) ▪ Likely to be fashioned after wetland mitigation banking, which has a mixed level of success in providing robust off-setting treatment function (EPA, 2018) • Taken from Janet Parrish report: Factors that correlate with failed wetland mitigation efforts include poor site selection, design, monitoring, and tracking. ▪ Lack of control by public may lead to disparity of stormwater management treatment levels across service area – may have impacts on equity of service level and environmental justice issues as well. ▪ May lead to some areas having lower levels of stormwater treatment which may lead to local hotspots of water quality/quantity issues if banking option is exercised frequently by land developers in areas that are sensitive to stormwater runoff impacts or it may lead to environmental justice concerns if area with lower treatment are located in socio-economically disadvantaged areas ○ Example(s)

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		▪ Anne Arundel County, MD
12	Text with Images	**Credit Trading/Offsets – Stormwater Trading/Offsets** • *Stormwater Trading/Offsets* - Credit-based trading approach that commoditizes aspects of stormwater management treatment and facilitates the selling/buying of stormwater credits on a transactional platform or through bi-lateral negotiation. Assumed that trading/offsets in this context is within a single jurisdiction that holds an MS4/NPDES permit. o Notes: ▪ This type of trading/offset approach is not subject to EPA 2003 WQT Policy (INSERT LINK HERE TO EPA WQT POLICY) ▪ This approach requires the use a performance standard based upon a measurable metric (i.e., gallons of runoff retained, acres of impervious cover treated, etc.), which may not be consistent with some post-construction stormwater performance standards based upon Maximum Extent Practicable (MEP) standard o Advantage(s) ▪ Allows for a "true" financial valuation of stormwater management services ▪ Areas needing high levels of stormwater treatment may be addressed more efficiently through well-crafted policies in a stormwater trading/offset context ▪ Trading/offsets should theoretically lead to more cost-efficient implementation of stormwater infrastructure by allowing lower-cost investments to be made in one location in lieu of higher-cost investments in another area o Challenge(s)/shortcoming(s) ▪ Primarily limited to new and redevelopment projects only, so is more impactful for areas with high land development/redevelopment rates ▪ May require significant costs for set-up as well as transaction costs during the program, which may offset the cost reductions realized from market-based dynamics ▪ May require complex policies and rules which may inject uncertainty and perceived risk for those stakeholders most likely to take advantage of the program (primarily land developers) ▪ May not include an incentive for aggradation of multiple projects, which is a lost opportunity for cost reductions associated with economies of scale – with the result of a potential chilling effect on large-scale implementation of stormwater infrastructure o Example(s)

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		▪ Washington, DC • 1.2" retention standard (90th percentile storm) • Half on-site required, rest can be purchased through credits or in-lieu fee • Credit buyers in urban core, credit generators in outlying urban districts • Exported retention could lead to social and environmental benefits and economic efficiencies ▪ Chattanooga, TN • Based upon 1" retention standard for MS4 permit for new/redevelopment projects o This defines their "Stay-On-Volume" (SOV) o SOV of 1.6" for protected watersheds • Sites must meet 80% TSS and either: o Find off-site mitigation o Pay "mitigation fee" of $45/cubic foot o Buy "water quality" coupon o Purchased from other developers or same developer at other site
13	Text with Images	**Credit Trading/Offsets – Regional Trading/Offsets** • *Regional Trading/Offsets* - Regional trading approach allows for an entity (usually a NPDES permitted entity) to purchase "credits" from another entity (public or private) that has generated excess "credits" o Advantage(s) ▪ Can take advantage of cost heterogeneity in treating runoff pollution across differing sectors and jurisdiction, which has significant cost-saving potential for stormwater treatment requirements o Challenge(s)/shortcoming(s) ▪ Assuming trades/offsets occur between at least one community with an NPDES permit, there is a requirement to meet EPA 2003 WQT policy, which states that trades/offsets cannot occur in a manner that will lead to water quality standards violations ▪ Many issues related to WQT, such as: • Establishment of baseline • Limitation of transactions by area, watershed, hydrologic unit code (HUC), etc. • Limitations on the pollutants that can be traded or offset (per EPA WQT policy) • Quantification of traded/offset units/credits • Definition of credit/offset duration ▪ May require the establishment of complex trading/offset rules, which may increase setup and transaction costs o Example(s)

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		▪ Maryland and Virginia have developed trading/offsets policies that allow MS4s to purchase a limited amount of credits to meet a portion of permit requirement
14	Text with Images	**In-Lieu Fee** • *In-Lieu Fee* - Allowing developers to pay a fee in-lieu of making on-site GSI investments with a portion of this fee dedicated to O&M – funds then used for capital and O&M investments in GSI ○ Advantage(s) ▪ Simple/low complexity way for developers to meet stormwater requirement ▪ Provides a revenue source for public sector to use for stormwater infrastructure investments ▪ Very common method in use today ○ Challenge(s)/shortcoming(s) ▪ Shifts burden from private sector to public sector to implement stormwater infrastructure to meet regulatory requirements ▪ Likely to require implementation to occur within a specified time period, which may be challenging for public sector to meet ○ Example(s) ▪ Example cases pending

Subchapter 6.2: Alternative Project Delivery Approaches for Stormwater Management Infrastructure Investments		
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15	Subchapter navigation slide with explanatory text; button links to main sub-sections	**Subchapter 6.2: Alternative Project Delivery Approaches for Stormwater Management Infrastructure Investments** The traditional way of implementing infrastructure in the U.S. is through the design-bid-build process, which is true for the stormwater infrastructure as well. This model has served the purpose of providing a fair and deliberate way to deliver projects; however, this approach has built-in inefficiencies that reduce the pace of project construction and inflate costs associated with infrastructure project delivery. A movement to consider alternative project delivery approaches has emerged in the U.S. as the need to improve and expand our infrastructure has increased. Associated with these approaches, which includes design-build and various public-private partnership (P3) models, is the potential to provide a platform for public and private financing. In other partnerships not contractually-based, the opportunities for public, private, and non-profit sectors can unlock efficiencies through opportunistic and win-win arrangements, which may include revenue, funding, and financing aspects.

Subchapter 6.2: Alternative Project Delivery Approaches for Stormwater Management Infrastructure Investments		
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		This chapter will explore all of these topics to provide you with a sampling of dynamics in this evolving field. **6.2.1: Traditional Project Delivery** ○ *Jump to Slide x* **6.2.2: Understanding Alternative Project Delivery Options** ○ *Jump to Slide x* **6.2.3: Cooperative Partnerships** ○ *Jump to Slide x* **6.2.4: Putting Alternative Project Delivery into Action** ○ *Jump to Slide x*
16	Background images; button to click and bring up definitions for key terms listed; allow further clicking to bring up additional information for some terms (e.g., traditional project delivery)	**Project Delivery Definition, Terminology, and Examples** • *Project Delivery* – Efforts taken to site, design and construct/install infrastructure projects • *Traditional Project Delivery* – The use of the "Design-Bid-Build", which describes a process where a design is developed (usually by an engineering or architecture consultant), then put out to competitive bid for construction contractors, which is typically awarded to the lowest-bid. • *Alternative Project Delivery* – This is a general term that captures the process used to site, design, plan, and construct/install infrastructure project by methods that differ from the traditional project delivery approach of design-bid-build. Characteristics of these arrangements include integrated services, innovative and non-traditional procurement processes, and partnering between various stakeholders. Goals of alternative project delivery approaches are often to reduce costs and time required to design and construct infrastructure projects. • *Public-Private Partnership (P3)* – This is a common type of alternative project delivery option that can be defined in many different ways. Some arrangements are broadly and informally defined as cooperative relationships between public and private stakeholders and/or property/asset holders with other public or private stakeholders while other arrangements are contractually-based and legally or statutorily defined as long-term contractual arrangements between public and private parties to design, construct, operate, maintain and/or finance infrastructure projects. This subchapter will use the term "Public-Private Partnerships" to refer to the latter type of arrangement. ○ The National Council of State Legislatures (NCSL) defines P3s as, "agreements that allow private companies to take on traditionally public roles in infrastructure projects, while keeping the public sector ultimately accountable for a project and the overall service to the public." (http://www.ncsl.org/research/transportation/public-private-partnerships-for-transportation.aspx) ○ https://youtu.be/l165WfywckM - MOST interview, "Alternative Delivery Models: Lessons Learned and Opportunities", Jeff Hughes, Director of the Environmental Finance Center at the University of North Carolina at Chapel Hill

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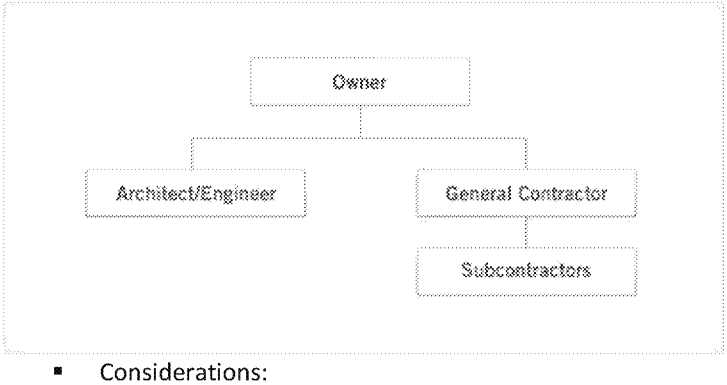
		• *Cooperative Partnerships* – This is the term used in this subchapter to describe partnerships that are not P3s, but rather, are defined in a broader context and are typically informal, ad hoc or project-oriented rather than formal/legal, highly coordinated, or programmatic. These partnerships can include multiple partners from multiple sectors. Examples of these types of partnerships are partnerships between two (or more) public agencies, such as an agreement between two public sector departments (e.g., parks and roads department) to cooperate on aspects of a project impacting both departments, or a partnership between a private entity and a public entity under similar circumstances. Additionally, non-profits can be integrated into a cooperative partnership arrangement along with other partners from both the public and the private sectors. • *Performance-Based Contract* – This is a contracting method that focuses on outputs or outcomes that are tied to payments for services or good provided rather than how the services or good are to be provided. (The Institute for Public Procurement, 2018).
17	This is additional information for "Traditional Project Delivery"	**6.2.1 – Traditional Project Delivery** ○ **Design-Bid-Build** ▪ Construct: • Design: Public sector identifies project need and procures design services • Bid: Public sector procures construction services based upon produced design via bid process (normally awarded to "low bid") • Build: Contractor awarded construction services builds the project  ▪ Considerations: • The traditional and default way to deliver projects in the U.S. • Onerous procurement process • Change orders in the field increase costs • Inefficiencies in delivering projects – also increases costs • Places a majority of project risk on the public sector • Limits the pace of infrastructure delivered • Results in elevated costs to deliver projects

Subchapter 6.2: Alternative Project Delivery Approaches for Stormwater Management Infrastructure Investments		
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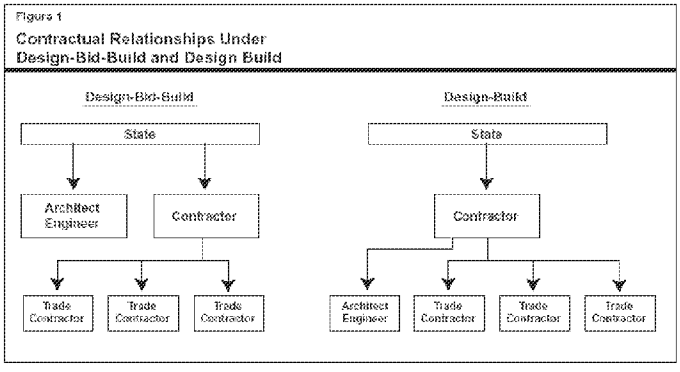
18	Text with images	**6.2.2 – Understanding <u>Alternative</u> Project Delivery Options** ○ Design-Build (DB) ○ Design-Build "Plus" ○ Full-Delivery Model ○ Community-Based Public-Private Partnerships (CBP3)
19	This is additional information for "Alternative Project Delivery"	• **Design-Build (DB)** ○ Construct: ▪ Integrates the design and the construction (build) aspects of project delivery ▪ Eliminate bid between design and build phases ▪ Does not address financing  ○ Advantages: ▪ Reduces project delivery time • Reduction in bid process increases project delivery timeframe ▪ Creates more constructible designs • Alignment of project outcomes with both design and construction service providers makes designers more invested in project construction/implementation ▪ Reduces costs associated with project delivery • Integrating project services reduces the frictional costs associated with bidding phase ▪ Allocates risks for project delivery to private sector • By having the private sector lead in project delivery and be accountable for these services in a performance-based manner, the risk for project delivery is reduced to the public sector – this has value for the public sector

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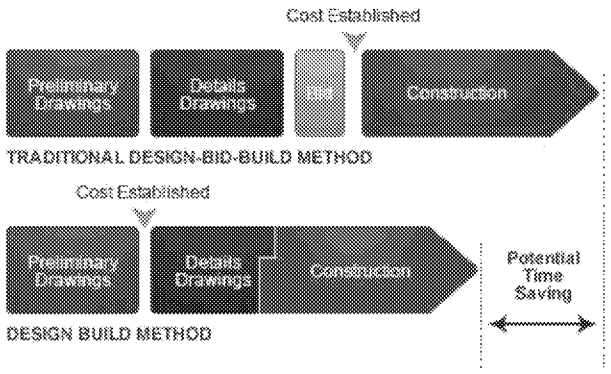
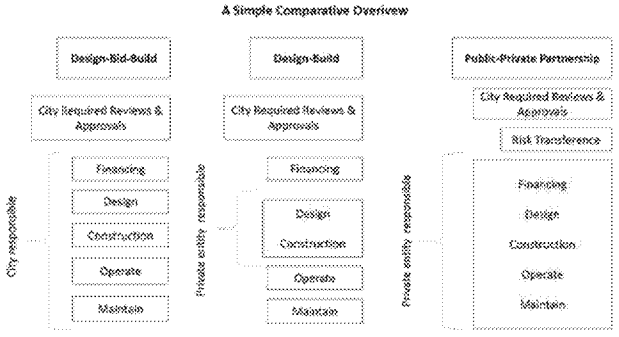
		
20	This is additional information for "Alternative Project Delivery"	• **Design-Build "Plus"** ○ Construct: ▪ Integrates the design and the construction (build) aspects of project delivery ▪ Includes additional services (operate, maintain, ownership, finance) – ownership retained by public  ▪ Examples of DB-Plus arrangements: • Design-Build-Operate (DBO) • Design-Build-Finance (DBF) • Design-Build-Operate-Finance (DBOF) • Design-Build-Operate-Maintain (DBOM) • Design-Build-Finance-Maintain (DBFM) • Design-Build-Operate-Finance-Maintain (DBFOM) ○ Advantages: ▪ Similar cost savings and increased pace of project delivery to D-B-Plus model, but potential for even greater savings/increased project delivery pace due to integration of additional services. ▪ Includes financing as an option, which can reduce the public sector's debt obligation, financial risk profile and

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		open up financing options for communities how have poor debt rating or otherwise are limited in public financing capacity. ○ Arrangements that phase in private sector involvement in unique manner ▪ Construction Manager At-Risk (CMAR) is an example • Public sector develops design plans ○ *High level of control by public* • Private party (construction manager) advises during design phase ○ *Becomes familiar with the project during design* ○ *Acts an advocate for the owner* • Private party agrees to construct the project at a Guaranteed Maximum Price (GMP) ○ *Reduces risk on construction side for public sector* ○ Several other arrangements exist where the private sector retains ownership of asset in program ▪ Build-Operate-Transfer (BOT) is an example • Private partner owns asset and leases to public entity for period of time, then transfers back to public sector ▪ Build-Own-Operate (BOO) is another example • Private partner owns asset and does not transfer back to public sector – private partner retains ownership
21	This is additional information for "Alternative Project Delivery"	• **Full-Delivery Model** ○ Construct: ▪ Also known as "turn-key" project delivery ▪ Similar to DBFOM model • Difference between full-delivery model and DBFOM is that the private sector can identify and site actual projects to be delivered to meet that program outcomes • Private sector takes on all project financing and project delivery risks ▪ Advantage(s): • Eliminates risks for the public sector • Reduces project delivery costs and increases project implementation ▪ Challenge(s)/Shortcoming(s): • Loss of control by public eliminates potential to direct benefits of project implementation in equitable fashion ▪ Example/Case Study: Anne Arundel County, MD

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		• $6M award for generation of water quality credits by providing services that include: • Provide all upfront investment • Identify projects/sites on private properties only • Develop designs and implement projects • Provide at least two years of O&M • Winning team will be reimbursed only after conditions are met • https://youtu.be/zrpQnBPi6MI - MOST video interview with Erik Michelsen with Anne Arundel County, MD
22	This is additional information for "Public-Private Partnership (P3)"	• **Community-Based Public-Private Partnerships (CBP3)** o Construct: ▪ Based upon typical formal P3 structure with several differences ▪ Typical formal P3 elements included in a CBP3 • Integrated project delivery services • Potential for private and blended financing • Fixed fee ▪ Additional characteristics of a CBP3 • Public retains self-defined amount of control over the program • Community goals and interest are central to the program • Additional profits gained through cost efficiencies in project delivery is automatically re-invested into program • Ambivalent on public vs. private financing – whatever is best for the community ▪ Example(s)/Case Study in Prince George's County, MD • Program focusing on integrated green stormwater infrastructure • CBP3 entity established – Clean Water Partnership – March, 2015 • 2,000 impervious acres for initial (3 yr) "pilot" phase completed in June, 2018 • Using traditional project delivery approach, cost would be ~$300M assuming $150K per impervious acre retrofitted, which is a fair average unit cost for urban stormwater retrofits • Phase I projected to cost $100M, but ended up costing $92M (unit cost ended up being $44K/imp acre) • Reduced project delivery time by more 50%

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		• Set benchmarks for local resident employment in the program as well as small local business usage – and exceeded all targets significantly ○ A significant amount of resources are available at: https://www.epa.gov/G3/financing-green-infrastructure-community-based-public-private-partnerships-cbp3-right-you ○ https://www.epa.gov/sites/production/files/2015-12/documents/gi_cb_p3_guide_epa_r3_final_042115_508.pdf
23	Text with Images	**6.2.3 – Cooperative Partnerships** ○ Public-Public ○ Public-Private ○ Public-Non-Profit
24	This is additional information for "Cooperative Partnerships"	**Public-Public** • *Public-Public* ○ *Example: An MOU is developed between the departments of parks and roads in a municipality that outlines the cooperation regarding opportunities for green infrastructure implementation during street rehabilitation and/or reconstruction.* *https://www.rivernetwork.org/resource/promoting-green-streets-recipe/*
25	This is additional information for "Cooperative Partnerships"	**Public-Private** • *Public-Private* ○ *Example: Runoff generated in a transportation Right-of-Way (ROW) captures flows from the roadway as well as runoff from a privately-owned property that is being redeveloped. The owner of the redeveloped property agrees to provide compensation for stormwater treatment generated by the redevelopment project in the ROW along with providing an easement and agreeing to provide long-term O&M services for the stormwater infrastructure located in the ROW.* *http://www.seattle.gov/util/cs/groups/public/@spu/@diroff/documents/webcontent/1_062771.pdf*
26	This is additional information for "Cooperative Partnerships"	**Public-Non-Profit** • *Public-Non-Profit* ○ *Example: A non-profit group, or multiple non-profit groups, work with a community to identify and obtain vacant lots in urban areas and invest in green infrastructure to provide stormwater runoff retention as well as community benefits.* ▪ *http://www.cbf.org/news-media/newsroom/2015/mayor-breaks-ground-on-vacant-lot-restoration-program.html*
27	Text with Images	**Advantages of Cooperative Partnerships** • Arrangements for infrastructure investment that include multiple parties are often established to leverage the strengths of each sector involved with specific challenges associated with a project or a program.

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		• Examples of challenges are complexities and barriers in public procurement and the need to raise capital for an infrastructure project.
		  ○ *Example: Craft3 is a non-profit in the Pacific Northwest area who provides rebate advances for green infrastructure. This helps to overcome a barrier for low-income residents who lack the capital to implement a green infrastructure practice on their property. This program helps to provide equity in green infrastructure investments in the Seattle area.*
		  ○ *https://www.craft3.org/Borrow/conservation-loans/rainwise-pilot-access-loan-program*
		• Cooperative partnerships can help to reduce costs of project delivery for stormwater management infrastructure significantly as this approach seeks opportunities for retrofits. Specifically, the cost to retrofit a roadway to integrate green infrastructure into the landscape is more costly if it is done as a stand-alone project. However, if a road is being rehabilitated or reconstructed, the marginal cost for implementing green infrastructure in this context is much lower, as it is an ancillary part of the larger construction effort

28	Text with Images; buttons to enable additional navigation and details for key terms	**Subchapter 6.2.4 – Putting Alternative Project Delivery into Action**
		Planning for Alternative Project Delivery
		• **Do Background Research on Potential for Alternative Project Delivery**
		  ○ **Statutory** – State legislation often defines, outlines and enables alternative project delivery (e.g., P3) frameworks – consult information regarding your state's statutory language on this topic. Specific areas often included in state legislation for P3s and other alternative delivery options are:
		  ▪ Definition - The definition of a P3 or other alternative project delivery frameworks is often defined and normally identifies "eligible projects", which may be limited to transportation projects, for instance, or it may be open to other public works projects as well.
		  ▪ Bidding process – legislation may require a "two-phase" bidding process for an RFQ and an RFP as well as the nature of bidding, such as allowing for selection to be made based upon "best value" rather than "lowest cost".
		  ▪ Proposals - state legislation often addresses the ability of a community to consider unsolicited proposals
		  ▪ Selection – Some states require that proposals and/or projects be reviewed by a committee established by the state before final approval.
		  ○ **Governance** - Local government autonomy via Home Rule vs. limited autonomy via Dillon Rule may impact alternative project delivery construct/arrangement. Gather information on the nature of your state and community regarding autonomy.
		  ○ **Procurement** – Consult with procurement department to understand how differing alternative project delivery options can

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		work with current procurement policies and investigate how procurement process would have to be changed or utilized for differing alternative project delivery options. ○ **Funding/Financing** – Consider what role funding, revenue and/or financing will play in the project or program. Having a dedicated revenue source, such as stormwater utility fee, can provide the repayment revenue needed to enable new and expanded forms of financing. Some parties may promote the use of a alternative project delivery method that requires private debt and equity financing, while others may be ambivalent regarding the source of funding via financing. Consult with infrastructure financing specialists to carefully consider the short-term and the long-term impacts associated with differing financing frameworks associated with respective alternative project delivery option considered. • **Educate Internally** ○ An effort will likely be needed to educate political leaders and decision makers on alternative project delivery options, including both the advantages and disadvantages. It is advised that advantages include not only environmental and regulatory aspects of the program/project, but the social, economic, and other co-benefits associated with stormwater infrastructure (especially green infrastructure). In addition, the cost savings and the ability to finance the project/program using off-balance-sheet options should be stressed. • **Gain Support** ○ Once decision-makers and other stakeholders understand the nature of the alternative project delivery options being considered as well as the benefits and disadvantages, it is advised the support is gained to move to the next step, which is to officially get input from potential private partners.
29	Text with Images; maybe break into multiple stepwise slides or create buttons in a process description	**Getting Input from Private Parties** • Communities should invest time and energy into reviewing options and becoming familiarized with various alternative project delivery options; however, the most effective way to understand the level of interest from the private sector on a particular project or program targeted for alternative delivery and/or to gather insights from the private sector on ideas to consider when moving forward is to release a Request for Information (RFI) or a Request for Qualifications (RFQ). • When formulating the RFI or RFQ as a first step, communities should consider not only regulatory goals, but also other sectors as well, such as economic development, social equity, local job and business creation. • Insights gained from the release of an RFI or RFQ may help to narrow down alternative delivery options to the preferred approach to move forward. Consider using this information and consult with a professional group who has experience in alternative project delivery and associated

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		financing vehicles to select the ideal approach for your project/program and your community. • One way to measure the quantitative value of a proposed alternative project delivery option is to use the "Value-for-Money" (VfM) approach, which is a method that quantifies costs to the public sector for the status-quo ("Public Comparator") and the P3 option ("Shadow Bid"). Costs include both construction and design services, but also include estimated costs associated with various project risks – this valuation of risk is critical as the allocation of risks from public to private sector holds significant value to the public sector, and capturing the value of this risk transfer/allocation is critical when comparing traditional versus alternative project delivery approaches. This method intended to provide a way to quantitatively contrast varying scenarios in an objective manner. A challenge in employing this method is the potential for subjective assumptions that may reduce the credibility of the output. https://www.fhwa.dot.gov/ipd/pdfs/p3/p3_value_for_money_primer_122612.pdf - FHWA VfM pimer